

ABSTRACT OF THE INVENTION

A vehicle seat assembly 12 is mounted to a vehicle base member 24 such as a riser or a vehicle floor. Weight sensor assemblies 32 for measuring weight on the vehicle seat are mounted to a seat structural component. The weight sensor assemblies 32 each include plate 44 having a bendable center body portion 46 for supporting a strain gage 48. The strain gage 48 measures bending in the center body portion 46 caused by normal weight force applications on the vehicle seat 12. A secondary resilient beam member 34 is mounted between each weight sensor 32 and the vehicle base member 24. The beam member 34 and the weight sensors 32 deflect to prevent failure of the weight sensors 32 in response to an overload force applied in an opposite direction to the direction of a normal weight force application. The beam member 34 prevents permanent deformation of the plate 44 and strain gage failure by allowing the weight sensor 32 to deflect upwardly away from the vehicle floor. An overload stop 68 reacts between the seat structural component and the vehicle floor to prevent seat separation under overload conditions.